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MEETING PLACE



Journal of the Royal Ontario Museum

VOL. 1, NO. 7. SUMMER 1966



FORTY YEARS ON THE MUSEUM'S VOLUNTEERS STUDYING IRAN'S CROWN JEWELS



MEETING PLACE is published by the Royal Ontario Museum, University of Toronto. W. E. Swinton, Editor.

This magazine appears as a supplement to VARSITY GRADUATE, and with other ROM activities is supported by the membership. To become a member, write to the Secretary's office, Royal Ontario Museum, 100 Queen's Park, Toronto 5. Annual fee is \$10. Life membership, \$100. Provincial membership (outside Toronto), \$5.

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FORTY YEARS ON

*Reflections on museums in England in the past,
and in Canada today*

W. E. SWINTON, Director

FORTY YEARS ON, when afar and asunder, parted are those who are singing today" runs the song of Harrow School, the alma mater of Winston Churchill. Forty years on the museum story also looks somewhat different from the day when I joined the British Museum (Natural History) shrouded, that November day, in a London pea-souper that gave little to sing about.

Roget's Thesaurus gives a number of interesting synonyms for museum, none of which is "a home of the Muses". They are accumulation, antiquity, exhibit and collection. The British Museum was all of these. It was a century and three-quarters old, it had an immense accumulation of specimens that formed its usable collections, usable for research for any who liked to devote himself to the task and mainly usable for the exhibits.

Much as museum curators like to think of a museum as their own preserve, the British Museum has always thrown its doors open to scholars and students. If in these early days much of the collection was exhibited in serried rows and ranks of specimens, one must confess that the arrangement had much advantage. There was little aesthetic about it, but what a convenience when one had a difficult specimen to identify. One walked down the rows until a near match was obtained. Then of course the study, description and publication of perhaps a new form began. And what a boon for teaching the university students, the classes of embryo nurses, dental and medical students that came in.

The museum was a civil service department unconnected with any university except by the association of its individual members. Members of the scientific staff were fortified by their education but there were then no established means of museum education. Museum practice was strictly controlled; no casual arrival at the office or departure from it was allowed. We worked six days a week with a rotating duty roster for Sunday. A policeman at the entrance terrified the very young by his presence. There was (and is) no entrance charge and school parties were then few and far between. Twice daily, at 11 a.m. and 3 p.m. the official guide lecturer, in

episcopal voice, intoned the natural history lessons of the day and cast a scornful eye over his ignorant flock.

Absences from the museum were seldom and the few expeditions were organized with great care and deliberation. Equally deliberate were all instructions to the staff, the senior members of which acted, and often appeared, like minor prophets. I just escaped the stipulation that museum scientific staff should wear top hats and frock coats. However attired there was no doubt that they were scholars, each swimming strongly in his academic pool, so that in the early days it was a frightening experience and responsibility to join the staff.

If the seniors had the demeanour of biblical prophets, the trustees were gods. The Archbishop of Canterbury, the Lord Chancellor, and the Speaker of the House of Commons were the three seniors. To join the scientific staff one had to have a nomination from one of them, then sit the Civil Service Entrance Examination, appear before a selection board, all after getting at least second class honours in an appropriate subject.

W. F. P. Barbellion (Bruce Cummings) in his *Journal of a Disappointed Man* records his entry to the museum a few years before my own. "They gave me a ruler, a writing pad and a pencil but they did not tell me what form (grade) I was in" and he went on to draw a close similarity between the curators (Keepers) of the museum and the ancients mentioned in Gray's Elegy "Each in his narrow cell for ever laid, the rude forefathers of the hamlet sleep".

The museum was a giant library of objects at the call of the visitors but it went very little out of its way to meet them. Yet its scientific output of papers, monographs, books and guides was fantastic. Much of this was due to the wonderful libraries the museum has always maintained.

There were, of course, many other museums in Britain, national, municipal, university, and those owned by private societies. It is also true that the Museums Association, the first of its kind, had been formed in 1890 in an endeavour to bring together those curators who believed in a *museum* profession and its development for the public service.

It has been consistently true, in my experience, that the owners of museums, whether governments, city councils or universities, have had little real idea of the museum's value or potentiality, or even, despite their protestations, of what goes on in museums. Not until some public figure discovers "museums" like a new religion, or some public institution decides to give financial stimulus to a museum project or cause, is there any awareness of their merits.

In Britain, in 1928, the Carnegie United Kingdom Trust commissioned a scientific member of the trustees of the British Museum, Sir Henry Miers, to produce a report on the non-national museums. "To put it bluntly," the report said, "most people in this country do not really care for museums or believe in them." Despite this, the far-sightedness of the Carnegie Trust, the guided use of some of its money and the constant co-operation with the Museums Association altered the whole picture.

A scheme of curatorial and technical education with certification was inaugurated and this is now accepted, and required, by most of the museum-owning authorities in Great Britain. Furthermore, the scheme has been satisfactorily adopted in New Zealand, Australia, and South Africa but rejected in Canada.

Grants and advice to museums in generous but not too generous amounts, have led to museum recognition and to self help in many cities, towns, and villages. Travel grants to curators have led to the widespread knowledge of what goes on in museums in other countries and to the establishment of an unofficial but very real museum fellowship throughout the world, and not only on our side of the iron and bamboo curtains.

To make a long story short, these things have all combined to a new enlightenment, to the recognition by the British Government of the value of museum services and the need for their continuation. Following an exhaustive report in 1963 by the Standing Commission on Museum and Art Galleries, a national and regional scheme for museums has been established and a Big Brotherhood of Museums has come into being, though not in that name, whereby the services of experts in curatorship, preparator's craft, and conservation are available from the large museum to the small, from the regions to the communities.

Not all members of the present British Government regard this service as adequate but there is no doubt that forty years have seen the transformation of museum and art gallery services through exemplary co-operation.

The need in Canada for a similar transformation is even greater, for the territorial and financial problems are themselves greater. We have national museums, somewhat surprisingly well favoured by government; we have university museums, with the ROM the greatest in the world, and innumerable small museums starved for money, manpower, and guidance. The Centennial promises to produce a flood of new museums and one can only hope that the flood will last sufficiently long to keep them afloat. The prospect of museums, founded in temporary affluence but soon stranded with the recession of the financial tide, is only too familiar.

One would like to think that a new urgency in the recognition of the museum's place in education and society, in the setting of standards for those who would devote themselves to curatorship, and an assurance of co-operation among the various provinces and museums, will be recognized.

There is a Canadian Museums Association, with clearly defined aims, but the geographical difficulties in frequent consultation between curators and the discussion of their problems prevent that collaboration that is the essential part of "Association".

The major problem is, however, one of recognition in high places. Libraries have long been regarded as cultural necessities whereas museums have at best been thought of as luxuries. Even Andrew Carnegie, who had much to do with both, thought so. Is there anything less useful in an accessible collection of objects than in a collection of books? Museums do not usually lend objects but library reference collections are amongst a library's most important possessions.

It is true that a "museum-piece" has often a derogatory flavour that one does not observe in "library-piece" or "literary-piece". Yet the association of museum-pieces, their collection and care, in one place, probably does much more to help the public to recreate an atmosphere and to recapture an environment than does any association of books. It is this that makes the museum more like a university, "a place of universal studies", the inspiration to the "well-rounded" individual. As such, museums provide a window into scholarship and a meeting-place for those interested in such scholarship and the adventures of learning.

One sees now the realization of this notably in the schools. School visits are yearly increasing in number and importance. Children are led from these to come again on their own, or better still, to bring their parents to enjoy a new series of impacts, the beginning of a new age of visual appreciation. Many of us in museums are excited about this and see no problem in a greater involvement between schools and museums and, above all, directly with children. We think of children not as children but as "intelligent people who are eagerly wanting to know and interested in the great adventure of the world".

Museums today are not only store-houses of knowledge but, as in the ROM, in the forefront of the making of knowledge. Many of its staff are university teachers, even more are familiar and friendly television personalities. There is nothing alien to children in this environment: it is one they would wish to join.

On the other hand, we in museums increasingly realize the responsibilities

laid upon us to collect, preserve, display, interpret, and rearrange objects and materials in ways unknown to our fathers and by means that were not at their disposal. We live in a scientific age, where science is the servant in a hundred ways. As museum curators we must couple our academic knowledge with other professional skills.

Today, museums live as modern institutions in a modern world, a world of daily scientific excitement and academic enrichment. We are indeed meeting places for all who care to come, and they are many. Can we not claim, as Beaumont claimed for the Mermaid Tavern, "that our walls have echoed with the words that have been so nimble and so full of subtle flame".

All this can be proved only by use. USE is the keynote of the MUSEUM—take away the USE and it is MUM—silent and secret—and forty years' experience has shown that though silence may be golden, it does not create, staff, or explain museums. It is not an educator or the conveyor of education. Museum curators please note.

THE MUSEUM'S VOLUNTEERS

What do those women do?

The answer is, a unique program of service.

JEANNE CARTER and NORA McRAE, Members' Committee

WOMEN's committees attach themselves to many kinds of organizations and institutions in North America. They raise great sums of money, get buildings built, expand art collections, conduct mammoth membership drives; they run gift shops, book stores, even cafeterias, to raise funds. The Members' Committee of the Royal Ontario Museum does none of these things. It exists to serve *directly* the curators and staff of Canada's largest museum.

Even in its origins, this committee is unusual. Its aid was offered spontaneously, not sought by the museum. Nine years ago a distinguished patron of the arts in Toronto, Mrs. Arnold Matthews, asked an informal study group of college graduates, "Why don't you do something to help the museum?" We had never thought of it before. Three of our members went to the

director, then Dr. Theodore Heinrich, to find out if the museum wanted any help. The answer was "Yes", and a working committee was born. It was agreed from the beginning that the number of volunteers would always be small: it is limited at present to 40 active members, plus some sustaining members who have served a minimum of seven years. The committee, moreover, would work as a group only for major special exhibitions; throughout most of the year the members would work individually in the labs and offices behind the scenes, in those departments whose curators requested help.

At this time the museum was preparing for the most ambitious exhibition it had ever undertaken; "Seven Centuries of English Silver". The three women who had approached the director, Mrs. William Randall, Mrs. Robert McRae, and Mrs. J. A. Rhind, quickly found nine colleagues. One of the first projects was to compile a comprehensive list of all Toronto women's organizations, which we hoped to interest in the silver show through personal contact. We also volunteered to give introductory talks and guided tours of the show to the general public; but for this, more strength obviously was needed. Each of the original dozen invited two others to join. Then followed eight lectures and several weeks of intensive study. When the exhibit opened in January 1958, the 36 women met the public as volunteers, not experts, inspired by an enthusiasm they did their best to share.

When the show closed, the committee formulated a more permanent plan of action. Our purposes, we decided, were to assist the museum staff as asked, and to encourage public interest in the institution. To do this effectively a continuing program of self-education was essential. The group was now officially named the Members' Committee of the Royal Ontario Museum. With encouragement from Mrs. O. D. Vaughan and the interest of Mrs. Edgar Stone of the Museum Board, and with Mrs. Hugh Downie as our official liaison with the administration, we looked for ways to be useful.

Behind the scenes, we found we could best help the curators by performing simple routine tasks such as filing, cataloguing, and mounting. Each member is assigned to a specific department, where she is expected to work half a day each week. The jobs are many and varied. In the Mammalogy Department, one volunteer is mapping the locations of specimens collected in British Guiana; another is re-organizing files with cross-references for all species and sub-species. Several are busy mounting butterflies and other insects in the Department of Entomology—a delicate operation. Others are sorting rocks for the mineralogists, and bones for the palaeontologists. In

some departments, volunteers make labels; in others they have organized card catalogues of offprints from periodicals, and of photographs. We have carried out many jobs in the Department of Ornithology, including the washing of birds' eggs. One volunteer is typing up the field notes of an archaeological expedition in Iran; for variety, she washes pottery sherds from the site of ancient Jericho. It might be pointed out that many curators go to a great deal of trouble to make the work interesting.

One large project was the making of dust covers for valuable Chinese volumes in the Far Eastern library. One of our volunteers in this department also serves as an expert in blue and white porcelain. In the museum's main library, volunteers spent untold hours re-labelling books as part of a general re-organization. We have also worked on the Canadiana library, and with the collection of early Canadian coins. In the European Department, one volunteer is making a study of clocks and watches, while another is doing research on the R. S. Williams collection of musical instruments. For Information Services, material is being gathered for a history of the museum: veteran staff members and friends are being interviewed and their recollections recorded. One year, the committee prepared a weekly feature for one of the daily newspapers, a "Museum Treasure Hunt" showing a different object each time.

Perhaps the most unusual job has been in the Textiles Department. Volunteers there are accustomed to sewing a fine seam, sorting, mending, cataloguing, and mounting materials. One agreed to act as a model for a series of photographs showing changes in *haute couture* over the last 40 years—and to preserve strict museum-like authenticity, changed her hair styles for each period, marcelled waves, Gay Twenties bob, upsweep, and feather cut.

Most placement jobs require some training which eventually makes the volunteer more valuable to the curator. At the same time, knowledge thus gained is a great joy.

Most important from the staff's point of view is that a volunteer be faithful, regular, and prompt. It is the committee's responsibility to instil in its members these attributes and to establish the number of hours each is expected to work in the year. The placement chairman deals with curators' requests and, having found out the job requirements, assigns volunteers, taking into consideration their preferences and abilities.

On occasion, the committee as a whole has made possible new projects which could not otherwise be undertaken. In 1958, counting on members to do the interviewing, the museum undertook a survey of its visitors. A random sampling of 4,800 persons was taken over a year. The published

results were among the first to spell out exactly who the museum visitor is.

In the area of education, members of the committee are trained to teach school classes in the North American Indian, Eskimo, and Canadiana galleries. For two years we also helped the Education Department conduct a tour behind the scenes for university freshmen, which we hope will be offered again.

Outside the museum, four volunteers have joined with the Education Department to run a Museum Club at the Crippled Children's Hospital. At each meeting a small group of children who are undergoing active treatment at the hospital are given a short film, talk, and showing of related museum objects.

The committee works in many ways to foster interest in the museum throughout the community. Each year we hold an Easter party for the children and grandchildren of the museum's Annual and Life Members and its staff. A theme is chosen which is related to topical museum interests, and the youngsters are introduced to it through the collections and special events. For example, the year that our present director, Dr. W. E. Swinton, a world authority on dinosaurs, joined the staff, we held a dinosaur party. The year that four of our own members were trained to teach classes in the Eskimo gallery, we gave a party about Canada's northern peoples: children in seal and caribou headdresses roamed about the gallery displays and patted live samoyeds. The following year, an archaeological theme reflected our museum's widespread expeditions in the Old World and the New. "Festival in India" celebrated the opening last year of a new exhibit showing the flora and fauna of the southern Indian rain forest in a natural setting.

This year "Journey to Japan" served to publicize the special exhibition of Art Treasures from Japan, which opened a fortnight later. Each child was given a rolled scroll with a map of the museum, showing where special activities were under way. In the Oriental galleries on the third floor, they learned to sing the Cherry Blossom Song to the accompaniment of the *koto*, a stringed instrument; nearby there was a talk and display of ceremonial dolls; a few minutes' walk further, a practical demonstration in the art of wearing a kimono. Casual visitors, this year for the first time, were welcome to join these groups. In the workrooms downstairs, the children with total concentration tried their hands at brush painting and origami. As always, the party ended for ticket holders with a box lunch in the lower rotunda, where decorations made by the committee added colour and information about the party's theme. Before going home each child received a simple Japanese souvenir.

Time alone will tell of captured imaginations and moulded futures. In a world where museologists are scarce, we would hope some child might be inspired to think of a museum career. And we have shown all the children that the museum is a lively, interesting place where things happen.

From the committee's point of view, being trained to give tours of the special exhibitions which come to the museum is the high water mark. Here we have the privilege of being lectured to and taught by curators who are authorities in their fields. Twenty-six volunteers took tours round the Jubilee exhibition in 1962 of Art Treasures from the ROM. We became amateur Egyptologists to tell people about the Tutankhamun Treasures. With the aid of a Montreal volunteer, our committee even arranged two tours for residents of Toronto whose native language is French. A year's study under the direction of the curator of the Far Eastern Department prepared us to take tours of the great exhibition of Japanese art. For special exhibitions we also help to distribute posters and to man the sales desks.

We are beginning to develop a general touring service, and have given several "treasure tours" to convention and special groups. Eventually we would like to offer a general walking tour on a weekly basis, and if enough interest were shown and guides were available, every day. We also hope to work next year with the Education Department in preparing short gallery quiz-guides for young visitors, and with the Canadiana Department in organizing slide lecture units to be lent to groups in the community.

So far this article has dealt with specific ways we generate interest in the museum. There is also a broader function of public relations. As a small group of eager volunteers our work has been one of involvement and our enthusiasm has spread to interested friends and supporters in the community. We act as a sounding board, and are therefore an effective source of public opinion. By listening to what people are saying—or not saying—about our museum we often hear things which would not be said to museum officials. Once inside the museum we bring a liveliness with our usefulness. In appreciating the museum from the layman's point of view we are in a position to serve not only the curator but also the general public. In our touring we can add the personal touch and transmit our own love of museum objects.

The Members' Committee chairman attends the annual meetings of other cultural organizations in Toronto, and we are active participating members of Volunteer Committees of Art Museums, attending conferences throughout North America. In these interchanges of ideas we are constantly on the alert for new ideas to adapt for use in our own museum.

To be more effective volunteers we try to arrange a continuing program of general museum education. In a year when there was no special exhibition we studied and took ten lectures on Canadiana. With widened horizons we have made expeditions to local historical museums such as Pioneer Village and Mackenzie House, and to Dundurn Castle in Hamilton, and Niagara-on-the-Lake.

It has taken time to win the approval of the museum staff—to show that we were not just a group of social butterflies who lighted periodically on their building. We have gained wide-ranging if fragmentary knowledge. In our unique role as volunteers in a great university museum we have been privileged to work for experts in many fields. We have given good service but we have been the real beneficiaries. As we have become more familiar with our museum and its program and staff, we have become more enthusiastic ambassadors and much more effective volunteers.

STUDYING IRAN'S CROWN JEWELS

*The world's most dazzling collection of gems
receives its first scientific examination*

V. B. MEEN, Chief Mineralogist

THE sun is shining on the japonica and pansies in the small garden in front of our house and on the snow-capped Elburz mountains at the rear. This is Tehran, capital of Iran, the Persia of former years. Even though the jet has superseded the camel on the transport routes of this country, this city is still a stopping-place for the traveller. Last week more than 1,700 foreigners broke their air journey here for one reason or another and during that week I had the feeling that, somehow, I had rubbed shoulders with most of them.

As in most cities, there are conducted tours to the points of tourist interest. Although I have not had time yet to indulge in such a tour, I do know that the Government buildings, the Gulistan Palace and the Bank Markazi (Central Bank) are on the itinerary. It is at the last named that the tourists and I meet. This is not, as might be supposed, while we are turning traveller's cheques into Iranian rials. Instead, it is while we mutually "oh" and "ah" at the fabulous wonders displayed deep in the central vault of the Bank. For

it is there that the Crown Jewels and the treasures of Iran are housed.

Until six years ago, this treasure was kept in dark, dusty vaults where only on very rare occasions any outsider could get a glimpse of them. In 1960, the best pieces were moved to a specially prepared vault in the newly-created Bank Markazi, in the centre of Tehran. Here they are protected by thick walls, great doors, electronic alarms, automatic gates and armed guards. But they are open to public view. The vault is fitted out as a museum gallery, air-conditioned, and with individually lighted display cases. It is open to the public for a few hours, four days a week, at a fee of 100 rials (about \$1.45 Canadian). I am there on most of these days and to my surprise find that three to four hundred others visit during each open period.

The collection is an amazing one and from the above remarks, it should be obvious that it is known by experience to a great many people and by reputation to many times that number. Yet, strange as it may seem, it has remained unknown to professional gemmologists. In the well-thumbed reference books used by such experts may appear a phrase such as "believed to be still in the Iranian treasures" but no description of the items of the collection or the gem-stones contained in them has been made available.

The Royal Ontario Museum's interest in the Iranian Crown Jewels began early in 1964 when my friend Martin Ehrmann, a gem dealer of Los Angeles, told me of seeing the collection during an enforced stop-over in Tehran just a few weeks before. It occurred to us that he and I should make a study of it together. It happened that I was planning a study of some of the gem areas in Southeast Asia in the winter of 1964-5 and so I arranged to return home by way of Tehran to see the collection and to enquire if it would be possible to make arrangements to carry out a study of it.

For several days in late January 1965, I discussed the proposition with officials of the Bank, and a few weeks after my return to Toronto I received word that the Royal Ontario Museum had been granted permission to carry out the study. By now it was realized that a study, even of the highlights of the collection, would take several months. Martin Ehrmann felt that he was unable to put that much time into it and decided to drop out. Months of planning followed and on February 3, 1966, the Royal Ontario Museum group arrived in Tehran.

I do not know what we would have done without the help of the Canadian Ambassador, the Hon. Paul Malone and his staff. Not only was a furnished house ready for our inspection, and eventual rental, but additional items of furniture, lamps and portable oil heaters were lent to us to make things more comfortable. Ali, an Iranian on the Embassy staff "knows every-

body" in Tehran's 2,000,000 population. It was he who liberated our boxes of equipment from Customs and took us to stationery and printing shops, and to rental agencies for typewriters and dictating equipment. Indeed, almost daily, he acts as go-between, over the telephone, when we have problems and our English-Persian sign language fails us.

We are quite a party. Dr. A. D. Tushingham, the ROM's Chief Archaeologist, is here to study the objets d'art, regalia, and settings of the jewellery. Grant G. Waite and E. B. Tiffany, Research Associates in my department, are with us to study the gems. Mr. Tiffany is on leave of absence through the courtesy of his employer, Henry Birks and Sons, Toronto. Then there is Leighton Warren, the museum's photographer. The financial support for our operations has been most generously provided by the Birks Family Foundation.

Our days seem backwards. On Tuesdays, Thursdays, and Sundays we may enter the vault with the public at 3 p.m. and may remain until 6 p.m. On Friday, the Muslim holy day, the public period is from 10 a.m. until noon. On Monday, Wednesday, and Saturday, we have the vault to ourselves from 4 to 7 p.m. It is in these periods that we get most done. It is then that we may lay electric cables across the floors to supply power for concentrated light by which to study and photograph. In shirt sleeves we can work without having the public breathing down our necks. Naturally, on public days we are a source of extra interest to the visitor. One visitor could not resist whispering in my ear, as I muttered data into a portable dictator and as I measured the size of emeralds and diamonds in a dazzling tiara, "Mr. Bond, I presume."

Our days, however, do not begin with the work in the Bank. Rather, they start right after breakfast with transcription of notes, calculations of gem sizes, and so on, trips downtown to ferret out suppliers of all kinds of necessities, visits to libraries to delve into old records. Dr. Tushingham is often away before 7.30 a.m. to make the most of a morning in the British Embassy library. When dinner is over about 8.30 p.m., we are all just about ready for bed. About this time, Leighton Warren processes the day's take of record pictures.

The Iranian Crown Jewels have been gathered through the centuries by the former kings and emperors of Persia. Their acquisition has been varied. Some have been passed from generation to generation, their origin lost in the mists of history. Some have been mined and, of course, the pearls came from the Persian Gulf. Some have been gifts from other monarchs. Some have been brought into the country by gem traders such as Tavernier or

agents of the Persian monarchs who visited gem markets in other countries. By far the most have been gathered as booty in the conquests which the former rulers of Persia waged far and wide. Not a few items have been obtained through torture. The wars were not always favourable to the Persians and from time to time the Treasure was depleted. Today, however, it stands in its glory, tastefully displayed, pleasantly illuminated.

The gallery is 105 feet long and 46 feet wide and there are 35 display cases. Those located flush in the walls, like windows, have internal lighting, while those which are free-standing are illuminated by focussed pencils of light directed into the cases through small openings in the false ceiling. The floor is marble. The low level of lighting tends to control the level of conversation but when excitement over some especially beautiful item develops in a group of visitors, the noise level rises quickly. One Sunday, I added to the excitement. I was examining a gold emerald-studded dish cover and was endeavouring to adjust a flashlight so that I could see down into one of the stones with my monocular magnifier. In my efforts, I came too close to the glass and banged the flashlight against it. Immediately a device started hooting stridently, and silently, but with amazing speed, the great gates in the antechamber swung shut locking us all in the vault. Guards came running down the stairs to peer at us through the gates. As soon as it was determined that no harm had been done, the gates were re-opened and the excited buzz receded.

It seems almost impossible to give a brief description of the collection. There are cases devoted to objects of personal adornment, brooches, rings, earrings, necklaces, armbands, turban ornaments, and so on. In others, articles of apparel, mirrors, walking-sticks, and swords are displayed. Several cases are devoted to arms, mostly in the form of swords and daggers, but here and there is a firearm or two. Many cases are devoted to objects used in the former royal households—gold dishes, dish covers, water and wine flasks, wine cups, narghiles, candlesticks, and snuff boxes. Most of these objects are embellished with gemstones. Diamonds, emeralds, rubies, and pearls are everywhere. In addition to the displays devoted to groups of related objects, there are cases devoted to particular gemstones. The diamond case contains a number of diamond tiaras and hundreds of unset diamonds, scores of which are over twenty carats in weight and many of which approach one hundred carats. Here is the sword of the famous Nadir Shah, the scabbard of which is covered entirely by diamonds.

Two cases are devoted to emeralds, both set in objects and unmounted. I did not know so many emeralds existed. Many of them bear inscriptions

in Persian or Arabic. The size, up to two and a half inches across, the colour, and the number of these stones leave the viewer speechless.

Individual cases are devoted to rubies and to turquoise. Here, too, the gems appear in objects and unset. Three windows are devoted to pearls—pearls in ropes three feet long, pearls in tassels, pearls in jewellery—pearls. Here and there, an emerald has been added for colour. In another case a small open trunk casually spills its contents of pearls!

Three cases are devoted to crowns and other royal regalia. Here, one-inch diamonds vie with two-inch emeralds and rubies and hundreds of pearls, a quarter-inch and more in diameter, for the viewer's attention.

About a hundred years ago the emperor of the time, Nasser-ed-Din Shah, decided to "tie down" some of the loose gems lying in the Treasury. As a result, a terrestrial globe was produced in which the total surface of the globe and its stand is covered with rubies, emeralds, diamonds and pearls. This globe stands about three feet high and is said to contain more than 51,000 gemstones, numbers of which are more than an inch in diameter.

The throne is the largest item in the collection and it stands alone near the rear of the gallery. It is covered with gold sheet, in which large emeralds, rubies, and diamonds have been prolifically placed.

Undoubtedly for the women visitors the large wall case reserved for the jewellery of the Royal ladies is the most fascinating. Here are displayed tiaras, necklaces, bracelets, earrings, and brooches studded with magnificent diamonds, emeralds, and rubies. In one of the emerald tiaras, the centre stone is an inch and a quarter long and more than an inch wide. In one of the diamond tiaras, the centre stone is a pink brilliant an inch and a quarter long. A pair of earrings with interchangeable single diamond and emerald drops, each an inch and a quarter long, fascinates me, but my ears are relieved that these are not for me.

We are here to study, measure and describe the principal objects and gems in the collection. Although we are allowed to have the cases opened and to handle the individual pieces, the total number of hours allowed for this purpose is quite limited—in all, fourteen periods of about four hours each. The prime regulation concerning the collection is that whenever any case is open, nine of the leading men of Iran must be present. We are fortunate that they are prepared to give so much time to the project.

It has been necessary, therefore, that most of the study be carried on through glass. Back in Toronto, we had spent many hours in devising ways and means of doing this and came equipped. To our delight, the equipment is working as planned. For example, Zeiss monoculars, with a variety of extra

lenses, allow us to magnify a three-quarter-inch gemstone until it fills the whole field of view. Smaller gems look fine too. A rectangular grid, fitted into the eye-piece, allows us to calculate dimensions of objects quite closely. We keep a trunk full of equipment in a room adjacent to the vault.

But the big thrill comes when the cases are opened. For a few short hours, we are able to measure exactly, weigh precisely, determine optical characteristics accurately, seek for signatures or makers' marks, and handle lovingly a few of the largest gemstones and the most interesting pieces of regalia and objets d'art. In those few hours we clear up many of the questions which have arisen during the earlier study and which cannot be answered by examination through glass. Leighton Warren has the first known opportunity to photograph any of this great collection free of glass.

When we return to the Museum, we expect to have sufficient data to be able to provide accurate descriptions of the major items of this collection, which is certainly one of the world's finest. In addition to scientific papers on the subject, we hope to publish a large, copiously illustrated volume. This will be offered as part of Canada's contribution to the celebration of the twenty-five hundredth anniversary of the Monarchy of Iran, to be celebrated in 1967.



In a vault of Iran's central Bank, Dr. Meen examines the gem-encrusted Pahlavi crown. He uses a Zeiss monocular specially adapted to study jewels from behind a barrier of glass.